

HP Modular Cooling System G2

Installation Overview



⚠ Important Safety Information

Before installation, read *Important Safety Information* on the Documentation CD.

قبل التنصيب، اقرأ معلومات هامة حول السلامة على القرص المضغوط Documentation CD.

Před instalací si přečtěte příručku *Důležité bezpečnostní informace* na disku CD.

安裝之前，請閱讀文檔 CD 上的重要安全信息。

安裝前，請閱讀說明文件光碟上的「重要的安全性資訊」。

Les dokumentet Vigtige sikkerhedsoplysninger på dokumentations-cd'en, før produktet installeres.

Lesen Sie vor der Installation die *Sicherheitshinweise* auf der Documentation CD.

Enne installimist vt dokumentatsiooni CD-lt peatükki „*Tähtis ohutusteave*“.

Antes de la instalación, lea la sección *Información de seguridad importante* del CD Documentación.

Avant l'installation, lisez les *informations importantes relatives à la sécurité* CD Documentation.

Πριν την εγκατάσταση, διαβάστε *Σημαντικές πληροφορίες ασφαλείας* στο CD Documentation.

לפני ההתקנה, קרא את המידע הבטיחותי החשוב שב-CD Documentation.

Prije ugradnje, pročitajte *Važne sigurnosne informacije* na dokumentacijskom CD-u.

Prima dell'installazione, leggere sul CD le *Informazioni importanti* sulla sicurezza.

インストール前に、Documentation CDの『安全に使用していただくために』をお読みください。

설치하기 전에 Documentation CD의 주요 안전 수칙을 읽으십시오.

Pirms instalācijas, izlasiet drošības informāciju dokumentācijas CD.

Prieš diegdami perskaitykite *Svarbią saugos informaciją* dokumentacijos CD.

Telepítés előtt olvassa el a dokumentációs CD *Fontos biztonsági tudnivalók* dokumentumát.

Lees de *Belangrijke veiligheidsinformatie* op de documentatie-cd voordat u de installatie uitvoert.

Les "Viktig sikkerhetsinformasjon" på dokumentasjons-CDen før du installerer dette produktet.

Przed instalacją przeczytaj *Ważne informacje dotyczące bezpieczeństwa*

na dysku CD Documentation.

Antes da instalação, leia as *Informações Importantes sobre Segurança* no CD da Documentação.

Перед установкой ознакомьтесь с разделом *Указания по технике безопасности*

на компакт-диске «Документация».

Pred inštaláciou si prečítajte časť *Dôležité bezpečnostné informácie* na disku Documentation CD.

Pred namesitvijo preberite *Pomembne varnostne informacije* na CD-ju Documentation.

Tärkeisiin turvatietoihin" Documentation CD -levyllä ennen tuotteen asentamista.

Läs dokumentet *Viktig säkerhetsinformation* på dokumentations-cd:n innan du installerar denna produkt.

Yüklemeden önce, Documentation CD'sindeki *Önemli Güvenlik Bilgileri*'ni okuyun.

Перед установкою прочитайте *Важливі відомості з безпеки* на CD документації.

Optimum environment and site preparation

⚠ CAUTION: Contaminated water might cause decreased cooling capacity or disruption in service. The water flowing into the MCS unit must meet the guidelines stated in the *HP Modular Cooling System G2 Site Preparation Guide*. The MCS warranty does not cover damage caused by contaminated water.

🔧 IMPORTANT: Before you begin the installation process, read the *HP Modular Cooling System G2 Site Preparation Guide*.

Environmental requirements must be met to provide optimum performance with minimum maintenance for your unit.

The *HP Modular Cooling System G2 Site Preparation Guide* provides information about planning your unit configuration efficiently and organizing your site location before delivery of your MCS unit.

To locate the latest version of the *HP Modular Cooling System G2 Site Preparation Guide*:

1. Go to the HP website (<http://www.hp.com/go/rackandpower>).
2. Select **Rack and Rack Options**.
3. Select **Modular Cooling System**.
4. Select **Support and Documents**.
5. Select **Manuals**.
6. Select and download the *HP Modular Cooling System G2 Site Preparation Guide*.

Safety information

The HP Modular Cooling System G2 is tested to the maximum pressure (PS) of 8 bar (116 PSI) without fluid trapped inside by closed, external valves.

If valves are installed on the external pipe work that could potentially trap fluid inside the MCS unit, special precautions must be taken. In order to prevent severe plumbing failure due to extreme pressure, use an expansion tank with a preinstalled safety valve in the plumbing circuit connected to the unit.

MCS G2 kit contents

- HP MCS G2 unit installed on an HP 10000 G2 Series Rack (1)
- Automatic Door Release kit (1)
- Rear plate cover (1)
- Condensation pump to facility hose (blue) (1)
- Condensation pan to facility hose (clear)* (1)
- Power cord, 4.5 m (14.8 ft), L6-20 to C19 (2)
- Power cord, 4.5 m (14.8 ft), IEC-309 to C19 (2)
- CAT5e cable, 7.62 m (25 ft) (1)
- Serial cable* (1)
- Access panel (1)
- Bracket (2)
- M6 trilobe flathead screw (2)
- M6 flathead screw (2)

*This item might ship preinstalled on the MCS unit rather than in the standard kit contents package.

Required tools

The following tools are required for installation:

- Flat blade screwdriver
- #2 Phillips screwdriver
- Adjustable wrench
- T-25 Torx driver
- T-30 Torx driver
- Bubble level
- Cap wrench (included with your HP Hook-Up Kit)
- Hose wrench (included with your HP Hook-Up Kit)

Installing the MCS unit

⚠ WARNING: The MCS unit and rack are shipped together on a heavy duty shock pallet weighing approximately 1633 kg (3600 lb). HP recommends hiring professional movers to move the heavy duty shock pallet, remove the MCS unit and rack from the pallet, and move the MCS unit and rack to the final location.

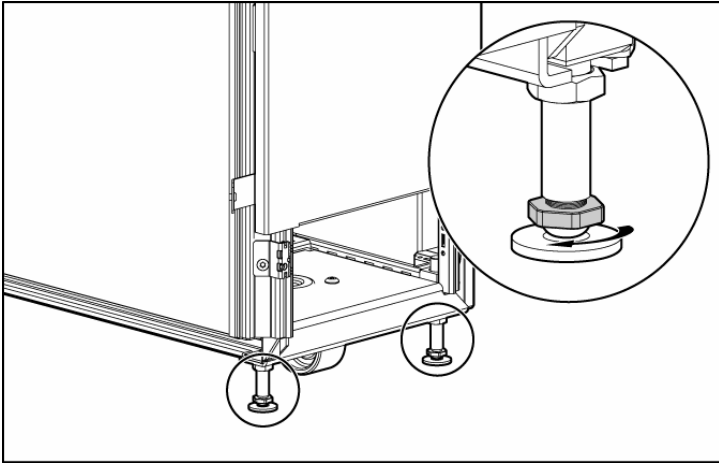
CAUTION: Contaminated water might cause decreased cooling capacity or disruption in service. The water flowing into the MCS unit must meet the guidelines stated in the *HP Modular Cooling System G2 Site Preparation Guide*. The MCS warranty does not cover damage caused by contaminated water.

IMPORTANT: Before you begin the installation process, read the *HP Modular Cooling System G2 Site Preparation Guide*.

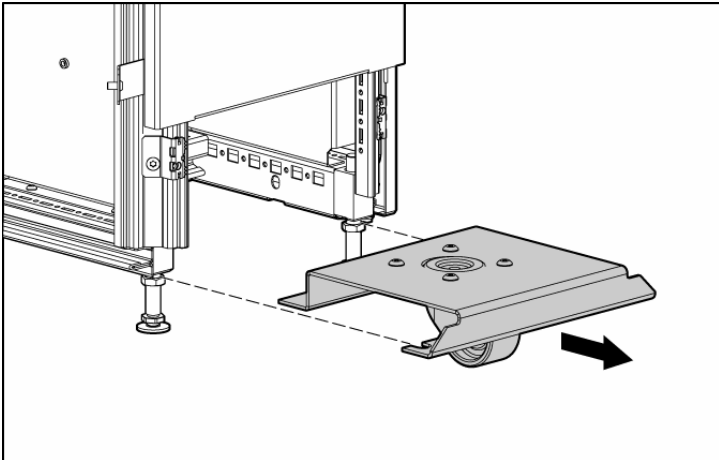
1. Install the HP Hook-Up Kit.
2. Read the unpacking instructions on the MCS packaging material.
3. Remove the MCS unit and rack from the pallet with four or more people.
4. Roll the MCS unit and rack to the final location.

NOTE: You only need to remove the caster plate (steps 4 through 6) if you are routing your hoses through the hole in the raised floor.

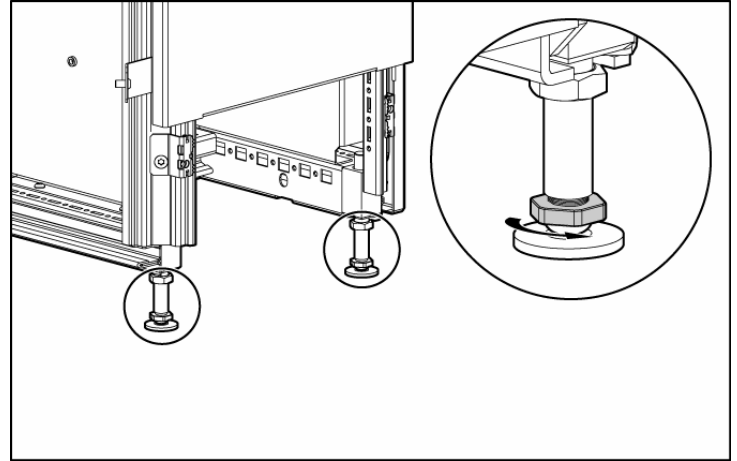
5. Loosen the jam nut, and then raise the unit by lowering the two rear leveling feet on both the MCS unit and the rack until you can remove the rear caster plate.



6. Remove the rear caster plate.



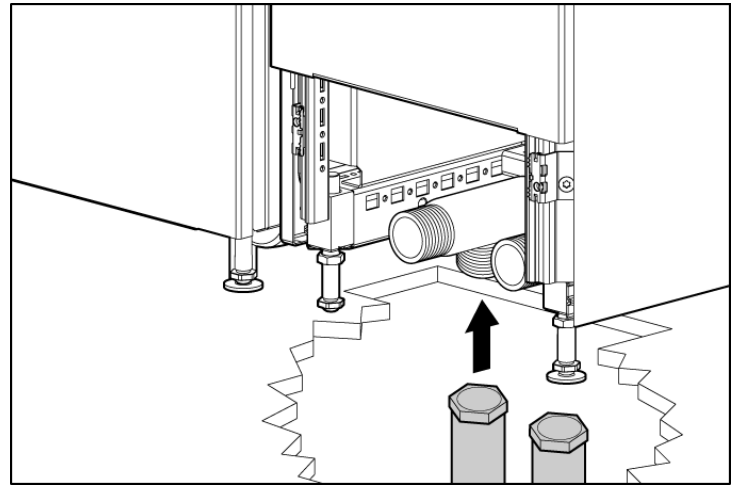
7. Lower the unit by raising the two rear leveling feet on both the MCS unit and the rack so that the MCS unit can move freely on the remaining casters.



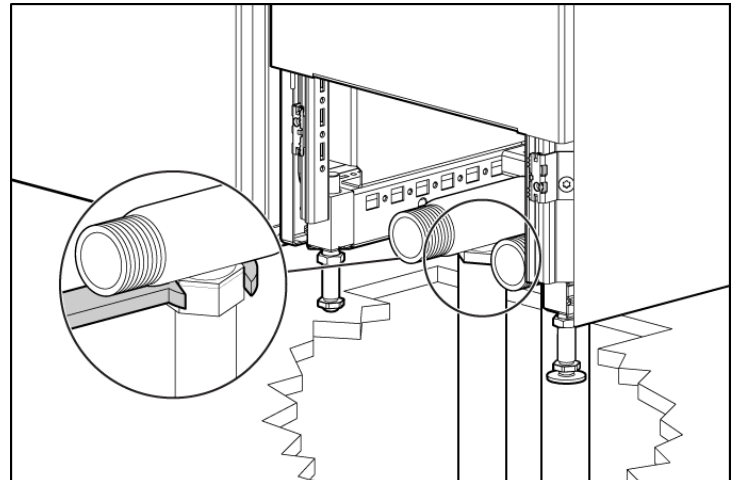
8. Adjust the leveling feet to level the MCS unit and rack, using a bubble level.

IMPORTANT: Check both ball valves on the water hoses to confirm that they are in the closed position before attaching the hoses to the MCS unit. Water that leaks into the unit can cause significant damage.

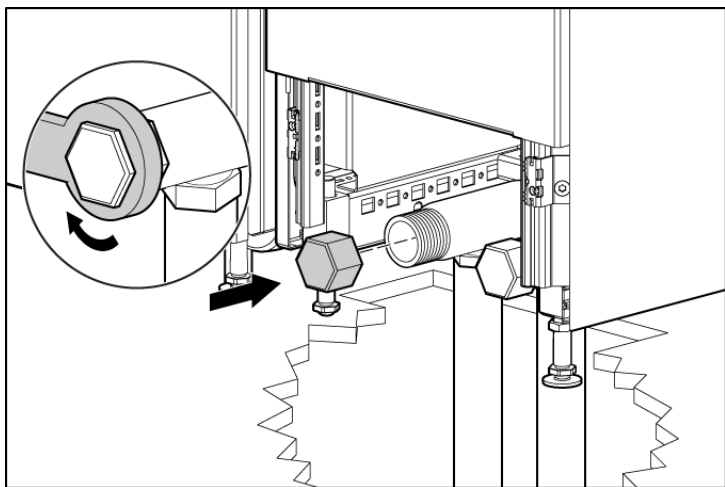
9. Route the water hoses from the HP Hook-Up Kit through the floor cut-out.



10. Install each main hose to the MCS unit using the hose wrench.



11. Cap the unused side of each T-fitting on the MCS unit using the cap wrench.

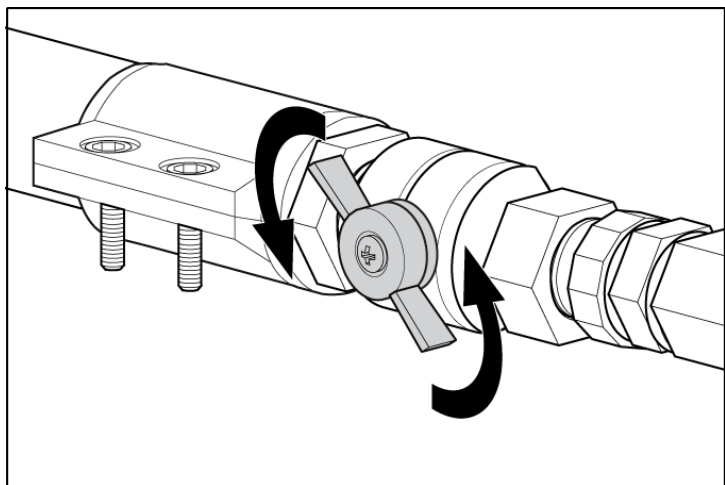


12. Route the two drain hoses to the drain collection system catch basin.

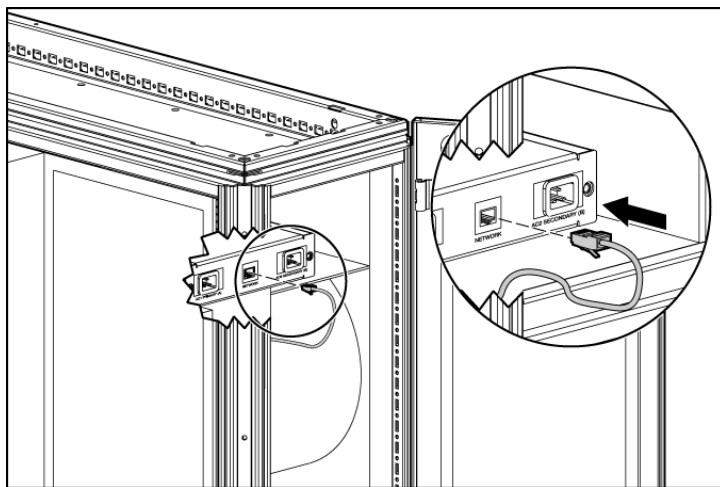
- Install and route the blue drain hose into either the condensation return line or the gravity drain collection system catch basin.
- Route the preinstalled clear drain hose into the gravity drain collection system catch basin.
- Position the gravity drain collection system below the condensation collection pan, allowing gravity to draw the water out of the condensation collection pan and into the gravity drain collection system basin.

13. Turn on the water by opening the four ball valves.

- Open the ball valves at the facility water line connections.
- Open the ball valves at the main hose connections.



14. Plug the network cable into the RJ-45 connector on the power inlet box.



15. Plug the other end of the network cable to your network connection.



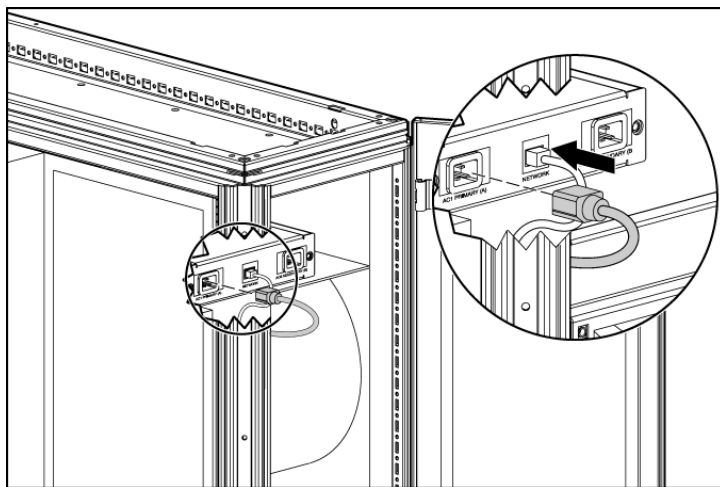
IMPORTANT: Do not connect the power cords into a power supply.

16. Plug the primary power cord into the power connector on the left.

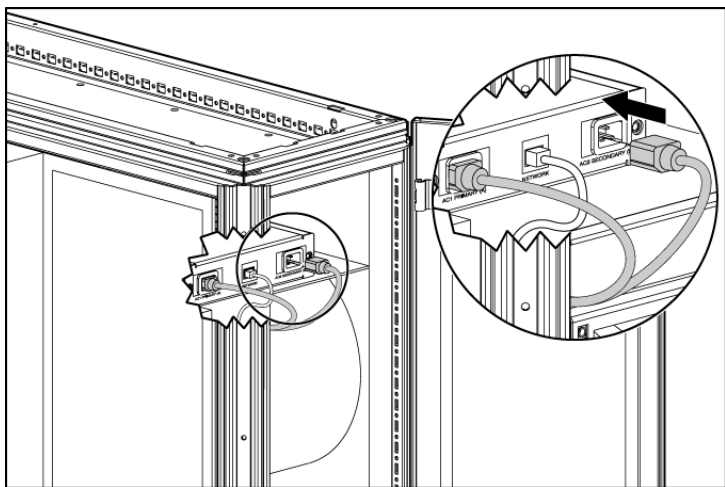


WARNING: To reduce the risk of electric shock or damage to the equipment:

- Do not disable the power cord grounding plug. The grounding plug is an important safety feature.
- Plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times.
- Unplug the power cord from the power supply to disconnect power to the equipment.
- Do not route the power cord where it can be walked on or pinched by items placed against it. Pay particular attention to the plug, electrical outlet, and the point where the cord extends from the storage system.

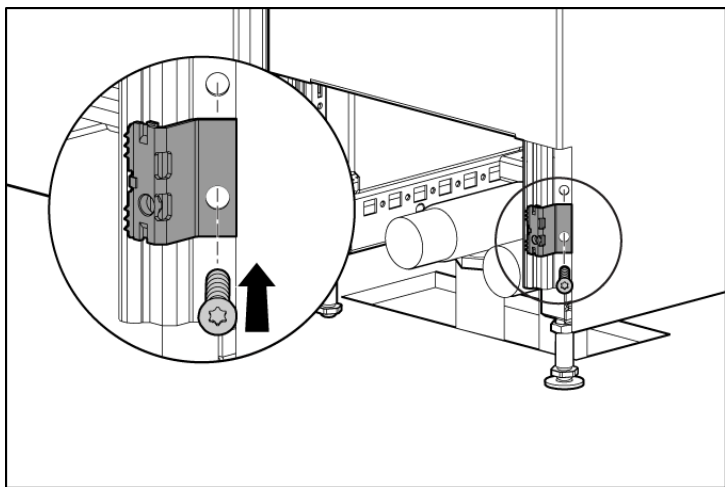


17. If you are using a secondary power cord, plug it into the power connector on the right.



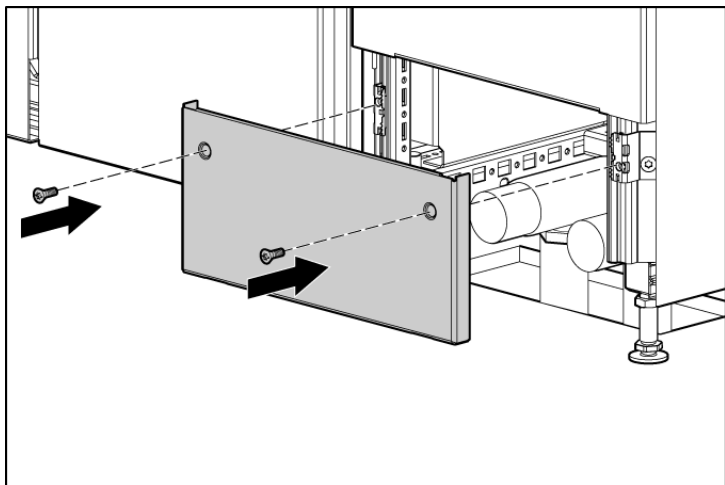
18. Guide the other ends of the power cords through the MCS unit, and then plug them into an appropriate power source.

19. (Optional) Secure the two brackets to the MCS frame using two M6 trilobe flathead screws.



20. (Optional) Align the access panel with the two brackets.

21. (Optional) Secure the access panel to the brackets on the MCS frame using two M6 flathead screws.



Installation is complete.

Powering up and configuring the unit

WARNING: To reduce the risk of electric shock or damage to the equipment:

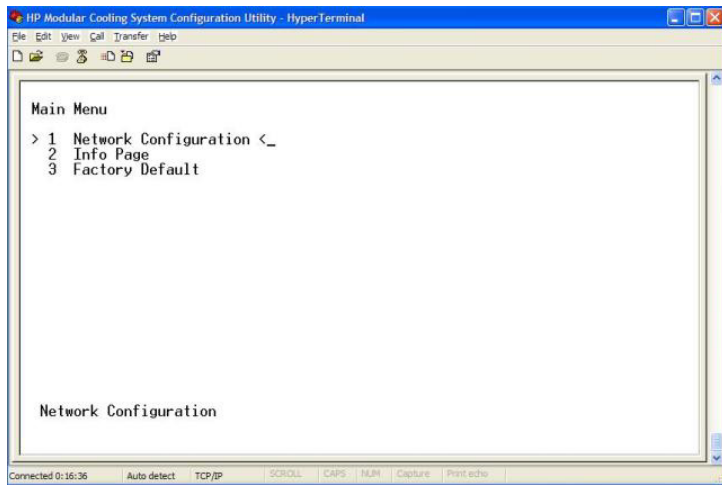
- Do not disable the power cord grounding plug. The grounding plug is an important safety feature.
- Plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times.
- Unplug the power cord from the power supply to disconnect power to the equipment.
- Do not route the power cord where it can be walked on or pinched by items placed against it. Pay particular attention to the plug, electrical outlet, and the point where the cord extends from the storage system.

1. Plug the power cords into an appropriate power source.
2. Connect the network cable to your network infrastructure.

NOTE: If you have a DHCP server, you can change the IP address through the web interface instead of through the serial port. For more information, refer to "Configuring the IP address through the web interface (on page 8)."

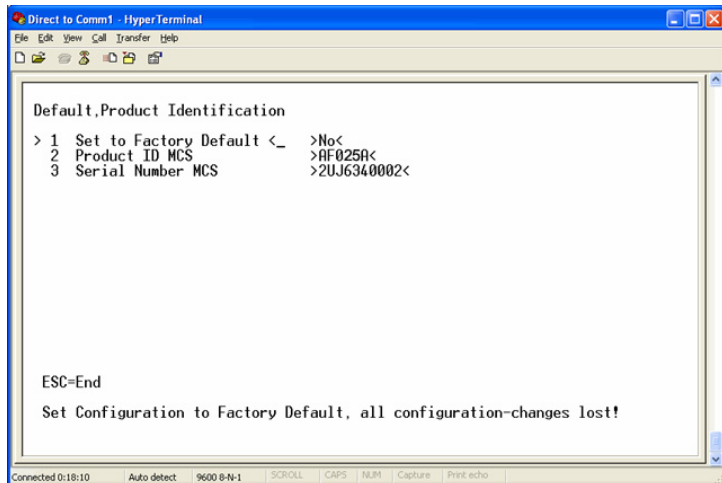
3. Using the serial cable provided, connect a PC with a serial port or an asynchronous terminal to the serial communication port on the management module.
4. Access the management module through a terminal emulation program, such as HyperTerminal or Minicom.
5. Confirm that you have set the following parameters to access a terminal emulation program:
 - o Bits per second: 9600
 - o Data bits: 8
 - o Parity: none
 - o Stop bits: 1
 - o Flow control: none
6. Log in to the HP Modular Cooling System Configuration Utility.
 - a. In the login field, enter the user name. The default user name is Admin.

- b. In the password field, enter the password. The default password is Admin. The Main Menu screen appears.



7. Enter the product ID and serial number. The product ID and 10-digit serial number are located on a label inside the rear MCS unit door.

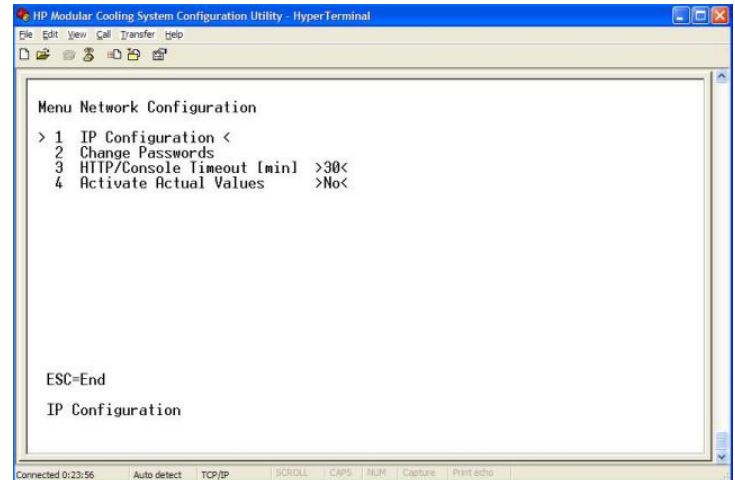
- a. From the Main Menu screen, enter 3 Factory Default. The Default Product Identification screen appears.



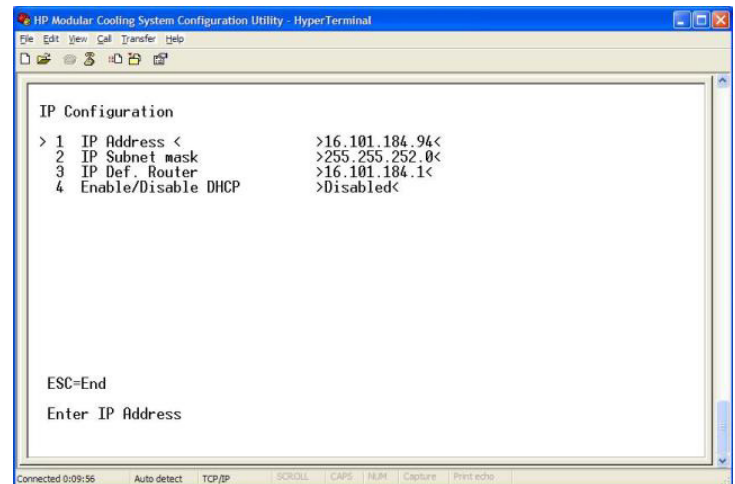
- b. To set the product ID, enter 2 Product ID MCS.
- c. To set the serial number, enter 3 Serial Number MCS.
- d. To return to the Main Menu screen, press **Esc**.

8. Access the HP Modular Cooling System Configuration Utility.

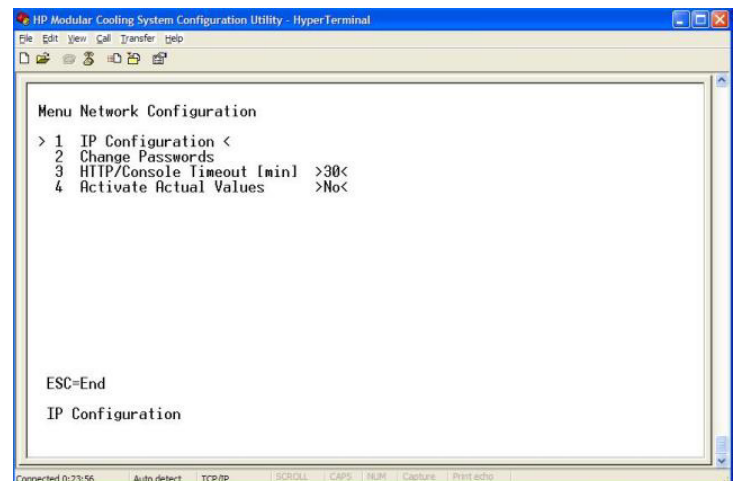
- a. From the Main Menu screen, enter 1 Network Configuration. The Menu Network Configuration screen appears.



- b. Enter 1 IP Configuration. The IP Configuration screen appears.



- c. To disable DHCP, enter 4 Enable/Disable DHCP.
 - d. Enter 1 IP Address, and then enter the new IP address.
 - e. Enter 2 IP Subnet mask, and then enter the IP subnet mask.
 - f. Enter 3 IP Def. Router, and then enter the gateway.
9. Activate the values.
 - a. Return to the Main Menu Network Configuration screen.



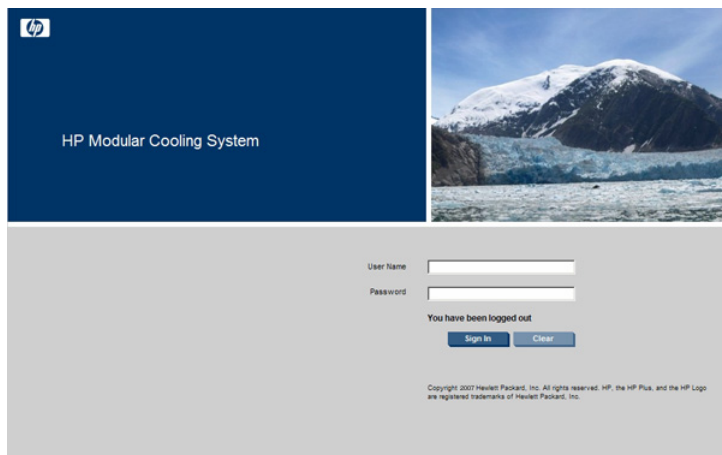
- b. Enter 4 Activate Actual Values.
- c. To reboot, enter `y` at the prompt. You must reboot to activate the IP settings, product ID, and serial number values.

10. Access the Management module through the web interface.

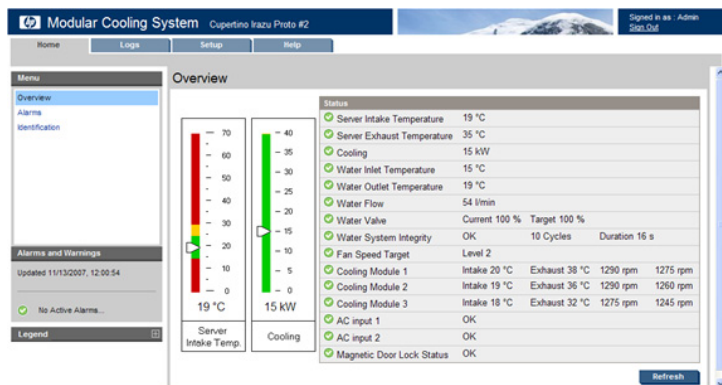
- a. Launch a supported browser. The browser window appears.
- b. In the Address field (Microsoft® Internet Explorer) or the Location field (Firefox Mozilla), enter `http://ipaddress` (where `ipaddress` is the IP address of the management module). The login screen appears.

11. Log in through the web interface.

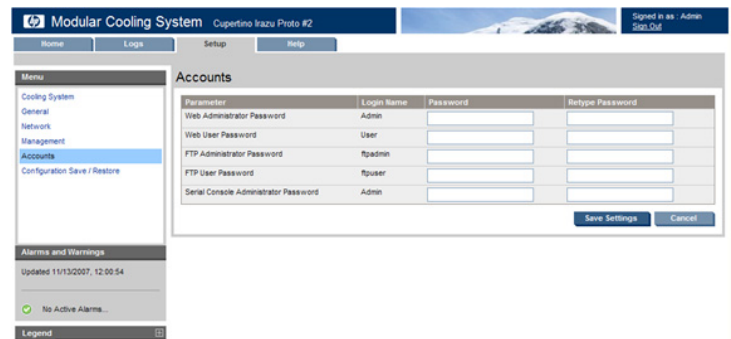
- a. Enter the user name in the User Name field. The default user name is Admin.
- b. Enter the password in the Password field. The default password is Admin.
- c. Click **Sign In**.



12. Verify that the water source is available and turned on by viewing the Water Flow status in the Overview menu.



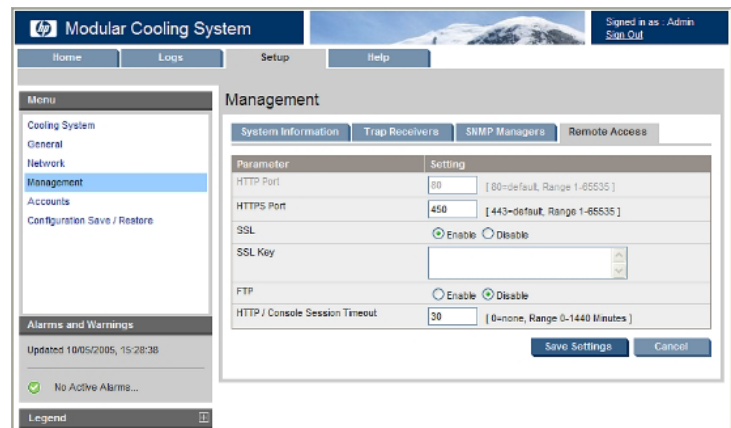
13. Click **Setup>Accounts**, and then change the default Web Admin and Web User passwords.



14. Click **Save Settings**.

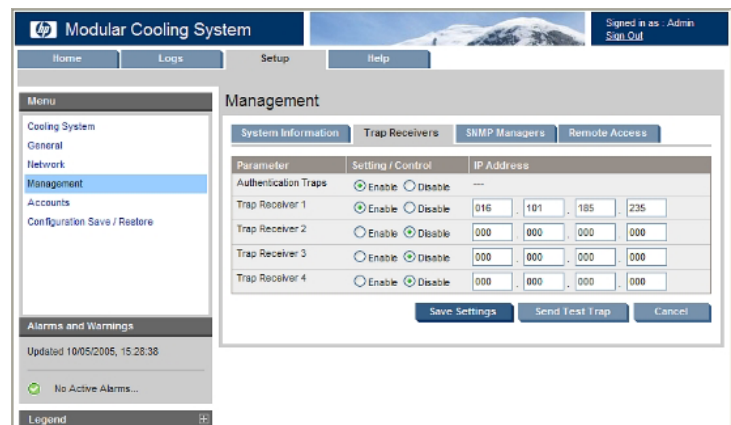
15. (Optional, but recommended) Click **Setup>Management>Remote Access**, select **SSL Enable**.

16. (Optional) Enter an SSL key.



17. Click **Save Settings**.

18. To set up your trap receivers, click **Setup>Management>Trap Receivers**.



19. Click **Save Settings**.

20. (Optional, but recommended) To set up your SNMP managers, click **Setup>Management>SNMP Managers**.

21. Click **Save Settings**.

For more information on adjusting the management module settings through the web interface, see the *HP Modular Cooling System G2 Web Interface User Guide* located on the Documentation CD shipped with this product.

Configuring the IP address through the web interface

1. View the IP address received from DHCP on the operator display.
2. Access the Management module through the web interface.
 - a. Launch a supported browser. The browser window appears.
 - b. In the Address field (Microsoft® Internet Explorer) or the Location field (Firefox Mozilla), enter `http://ipaddress` (where `ipaddress` is the IP address of the management module). The login screen appears.
3. Log in through the web interface.
 - a. Enter the user name in the User Name field. The default user name is Admin.
 - b. Enter the password in the Password field. The default password is Admin.
 - c. Click **Sign In**.

4. Click **Setup>Network**.
 - a. Select the radio button to disable DHCP (enabled is the default setting).
 - b. Click **Save Settings**.
 - c. Change the IP address in the IP Address field of the management module.
 - d. Change the network mask of the management module.
 - e. Change the default gateway of the management module.
 - f. Click **Save Settings**.
 - g. Log in to the new IP address.

5. Verify that the water source is available and turned on by viewing the Water Flow status in the Overview menu.

6. Click **Setup>Accounts**, and then change the default Web Admin and Web User passwords.

7. Click **Save Settings**.
8. (Optional, but recommended) Click **Setup>Management>Remote Access**, select **SSL Enable**.

9. (Optional) Enter an SSL key.

The screenshot shows the 'Modular Cooling System' web interface. The 'Management' tab is selected, and the 'System Information' sub-tab is active. The 'SSL Key' field is highlighted with a yellow box. The 'SSL' checkbox is checked, and the 'SSL Key' field is empty. The 'FTP' checkbox is unchecked. The 'HTTP / Console Session Timeout' is set to 30 minutes.

10. Click **Save Settings**.

11. To set up your trap receivers, click **Setup>Management>Trap Receivers**.

The screenshot shows the 'Modular Cooling System' web interface. The 'Management' tab is selected, and the 'Trap Receivers' sub-tab is active. The 'Trap Receiver 1' row is highlighted with a yellow box. The 'Authentication Traps' checkbox is checked. The 'Trap Receiver 1' row shows the IP address 016.101.185.235.

12. Click **Save Settings**.

13. (Optional, but recommended) To set up your SNMP managers, click **Setup>Management>SNMP Managers**.

The screenshot shows the 'Modular Cooling System' web interface. The 'Management' tab is selected, and the 'SNMP Managers' sub-tab is active. The 'SNMP Manager 1' row is highlighted with a yellow box. The 'SNMP Manager 1' row shows the IP address 000.000.000.000.

14. Click **Save Settings**.

For more information on adjusting the management module settings through the web interface, see the *HP Modular Cooling System G2 Web Interface User Guide* located on the Documentation CD included with this product.

Automatic Door Release Kit

To view the HP Automatic Door Release hardware installation instructions, see the documentation that shipped with that kit.

To enable the automatic door release functionality:

1. Click **Setup>Advanced**.
2. Select the **Enable** button at the bottom of the screen.

The screenshot shows the 'Modular Cooling System' web interface. The 'Setup' tab is selected, and the 'Advanced' sub-tab is active. The 'Emergency Door Opening' checkbox is highlighted with a yellow box. The 'Emergency Door Opening' checkbox is checked. The 'Door Opening Test' checkbox is unchecked.

Legal notices

© Copyright 2007 Hewlett-Packard Development Company, L.P.

The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

Microsoft and Windows are U.S. registered trademarks of Microsoft Corporation.

Part Number 463068-001

December 2007